

IN THE CLAIMS

Please cancel claims 1-14 and add the following new claims.

1.-14. (Cancelled)

15. (New) A transfer case assembly comprising:

an input shaft adapted to be coupled to a power source;

a first axle output shaft driven by said input shaft;

a second axle output shaft selectively driven by said input shaft;

a clutch mechanism for coupling said second axle output shaft to said first axle output shaft; and

a controller for controlling activation of said clutch mechanism wherein said controller compares rotational speeds of said first and second axle output shafts to each other, generates a control signal to bring said rotational speeds of said first and second axle output shafts within a common rotational speed range if rotational speeds of said first and second axle output shafts differ from each other by a predetermined amount, and activates said clutch mechanism to couple said first and second axle output shafts together during a wheel slippage condition when rotational speeds of said first and second axle output shafts are within said common rotational speed range.

16. (New) An assembly according to claim 15 wherein said controller automatically activates said clutch mechanism during a wheel slippage condition only if rotational speeds of said first and second axle output shafts are within a common rotational speed range.

17. (New) An assembly according to claim 15 wherein said controller controls at least one of a power source output torque or a wheel braking force to bring rotational speeds of said first and second axle output shafts within said common rotational speed range during the wheel slippage condition.
18. (New) An assembly according to claim 17 wherein said controller only controls said wheel braking force to bring rotational speeds of said first and second axle output shafts within said common rotational speed range prior to activating said clutch mechanism during the wheel slippage condition.
19. (New) An assembly according to claim 17 wherein said controller only controls power source output torque to bring rotational speeds of said first and second axle output shafts within said common rotational speed range prior to activating said clutch mechanism during the wheel slippage condition.
20. (New) An assembly according to claim 17 wherein said controller simultaneously controls both said power source output torque and said wheel braking force to bring rotational speeds of said first and second axle output shafts within said common rotational speed range prior to activating said clutch mechanism during the wheel slippage condition.
21. (New) An assembly according to claim 15 wherein said controller disengages said second axle output shaft from said first axle output shaft when there is no wheel slippage.

22. (New) An assembly according to claim 15 wherein including a gear assembly operably coupling said input shaft to said first axle output shaft for continuous driving engagement.

23. (New) An assembly according to claim 22 wherein said clutch mechanism selectively couples said second axle output shaft for rotation with said first axle output shaft such that said input shaft drives both said first and second axle output shafts via said gear assembly.

24. (New) An assembly according to claim 23 wherein said gear assembly includes at least a first gear directly coupled to said input shaft, a second gear directly coupled to said first axle output shaft, and a third gear in meshing engagement with said first and second gears to transfer driving input from said input shaft to said first axle output shaft.

25. (New) An assembly according to claim 15 including a first drive axle with a first differential that receives driving input from said first axle output shaft, said first differential providing driving input to a first set of wheels and including a second drive axle with a second differential that selectively receives driving input from said second axle output shaft, said second differential providing driving input to a second set of wheels wherein said controller determines rotational speeds of said first and second sets of wheels to identify the wheel slippage condition.

26. (New) A method for coupling a transfer case to a drive axle during wheel comprising the steps of:

- (a) providing an input adapted to be coupled to a power source, a first axle output shaft driven by the input shaft, a second axle output shaft selectively driven by the input shaft, and a clutch mechanism for coupling the second axle output shaft to the first axle output shaft;
- (b) sensing wheel slippage;
- (c) comparing rotational speeds of the first and second axle output shafts to each other;
- (d) generating a control signal to bring the rotational speeds of the first and second axle output shafts within a common rotational speed range if the rotational speeds of the first and second axle output shafts are different from each other by a predetermined amount; and
- (e) activating the clutch mechanism to couple the first and second axle output shafts together during a wheel slippage condition once the rotational speeds of the first and second axle output shafts are within the common rotational speed range.

27. (New) A method according to claim 26 wherein step (d) further includes the step of controlling at least one of a power source output torque or a wheel braking force to bring rotational speeds of the first and second axle output shafts within the common rotational speed range during the wheel slippage condition.

28. (New) A method according to claim 27 including the step of only controlling wheel braking force to bring rotational speeds of the first and second axle output shafts within the common rotational speed range prior to step (e).

29. (New) A method according to claim 27 including the step of only controlling power source output torque to bring rotational speeds of the first and second axle output shafts within the common rotational speed range prior to step (e).

30. (New) A method according to claim 27 including the step of simultaneously controlling both the power source output torque and the wheel braking force to bring rotational speeds of the first and second axle output shafts within the common rotational speed range prior to step (e).

31. (New) A method according to claim 26 including the step of disengaging the second axle output shaft from the first axle output shaft subsequent to step (e) when there is no wheel slippage.

32. (New) A method according to claim 25 including the step of continuously driving the first axle output shaft with a gear assembly that is driven by the input shaft.

33. (New) A method according to claim 25 including the steps of providing a first drive axle with a first differential that receives driving input from the first axle output shaft and a second drive axle with a second differential that selectively receives driving input from the second axle output shaft; driving a first set of wheels with the first differential; driving a second set of wheels with the second differential; and determining rotational speeds of the first and second sets of wheels to identify the wheel slippage condition during step (b).